

Amendments to the Specification:

Please replace the Title with the following rewritten Title:

RECORDING ~~DEVICE~~APPARATUS, RECORDING METHOD, RECORDING MEDIUM, AND PROGRAM

After the title and before the first paragraph, please insert the following paragraph:

THIS APPLICATION IS A U.S. NATIONAL PHASE APPLICATION OF PCT INTERNATIONAL APPLICATION PCT/JP2004/000189.

Please replace the paragraph, beginning at page 1, line 13, with the following rewritten paragraph:

Advancement of digitization of audio visual equipment over the recent years has made it possible to copy content without quality deterioration. However, unlimited copying of copyrighted content could infringe the right to which the copyright holder is entitled. ~~There~~ Therefore, there is a demand to have a proper copyright protection function for audio visual equipment.

Please replace the paragraph, beginning at page 1, line 19, with the following rewritten paragraph:

As copy control in digital audio equipment, a serial copy management system (hereinafter abbreviated as "SCMS") has been widely used from around the 1980s. In the SCMS, copy control information is recorded together with content in a medium such as a CD, ~~an~~ a minidisk (MD) and an airwave, ~~and when~~ When the content is to be copied with a connection established inside the same housing or between different pieces of equipment via a digital interface, whether to permit copying is controlled in accordance with the copy control information of the content. The SCMS is effective to a certain extent, as in the case of commercial recording machines, such as those for MDs.

Please replace the paragraph, beginning at page 2, line 25, with the following rewritten paragraph:

Even when a signal in which an electronic watermark is embedded is played back, one cannot recognize a difference between this signal and the original signal while viewing normally, ~~and thus~~ Thus, the quality of the content does not deteriorate. Since an electronic watermark is embedded directly in the content, copy control information can be transmitted even during analog transmission. An electronic watermark also has durability so that copy control information is maintained even after ordinary audio compression and expansion (e.g., MP3). In addition, without special embedding and a special decryption apparatus, an electronic watermark can not be read or written, ~~and when~~ When combined with encryption of content itself, an electronic watermark can realize more powerful copy control than the SCMS.

Please replace the paragraph, beginning at page 3, line 14, with the following rewritten paragraph:

By means of electronic watermarking technologies for use in CPPM, CPRM and SDMI, it is possible to embed 12-bit information as an electronic watermark within digital audio data of the linear PCM format. Of this, two bits are used for copy control, ~~and the~~ The two bits express the three states: "copy_freely"; "copy_one_generation" and "no_more_copy". Although these two bits, as such, can express four states, use of the remaining one is prohibited.

Please replace the paragraph, beginning at page 6, line 11, with the following rewritten paragraph:

The spindle motor 161 ~~is a means which~~ rotates a disk 160. The optical pickup 162 ~~is a means which~~ reads a signal recorded on the disk 160. The mechanism control part 163 ~~is a means which~~ drives and controls the spindle motor 161 and the optical pickup 162. The signal processing part 164 ~~is a means which~~ retrieves data out of an output from the optical pickup 162 or executes error correction to thereby extract a system stream and supplies a control signal to the mechanism control part 163. The signal processing part 164 ~~is also a means which~~ analyzes the system stream, extracts playback style information which is indicative of the start and the end of a playback unit, the end of playback of a whole disk, etc., and sends to the system control part 173. The encryption/decryption apparatus 165 ~~is a means which~~ checks

whether the system stream has been encrypted and in the event that the system stream has been encrypted, decrypts the cipher. The encryption/decryption apparatus 165 ~~is also a means which~~ provides the system control part 173 with encryption status information which expresses whether the system stream has been encrypted. The digital CCI decryption apparatus 166 ~~is a means which~~ detects digital CCI out of an unencrypted system stream output from the encryption/decryption apparatus 165. The audio visual decryption apparatus 167 ~~is a means which~~ extracts a digital audio signal or digital video signal out of an unencrypted system stream output from the encryption/decryption apparatus 165 and performs decoding. The watermark CCI decryption apparatus 169 ~~is a means which~~ detects watermark CCI data out of the digital audio signal or digital video signal output from the audio visual decryption apparatus 167. The DA convertor 168 ~~is a means which~~ converts the digital audio signal or digital video signal into an analog audio signal or analog video signal. The digital signal output control part 170 ~~is a means which~~ converts the digital audio signal or analog audio signal into a preset output format (for instance, IEC60958, IEEE1394) and executes output control. The analog signal output control part 171 ~~is a means which~~ executes output control for the analog audio signal or analog video signal output by the DA convertor 168. The display part 172 ~~is a means which~~ displays an operating state. The system control part 173 ~~is a means which~~ reads the watermark CCI data and the digital CCI data, playback status information available from the signal processing part 164 and the encryption status information of the system stream available from the encryption/decryption apparatus 165, controls the digital signal output control part 170 and the analog signal output control part 171 and also controls the display part 172 and the mechanism control part 163 as well.

Please replace the paragraph, beginning at page 14, line 16, with the following rewritten paragraph:

IEEE1394 permits synchronous transmission of data in a high-speed bus system which is for serial transmission, and hence, realizes real-time transmission of audio visual data. As such, IEEE1394 is employed as an external interface in a wide spectrum of digital audio visual equipment including consumer digital audio visual equipment. The IEEE1394-DTCP method requires the authentication function and the key invalidation function in relation to data transmission over an IEEE1394 bus, ~~and as~~ data which needs copyright protection such as audio visual data encrypted and transmitted, copyright protection is ensured. When content needs to be copyright-protected, at the time of transmission of the content, the content is

encrypted and transmitted according to the IEEE1394-DTCP method, thereby protecting the copyright of the content.

Please replace the paragraph, beginning at page 19, line 13, with the following rewritten paragraph:

SD audio equipment complying with the SDMI control method can output an SDMI-protected content as analog independent of the values of the digital CCI, the watermark CCI, etc. In other words, because an SDMI-protected content was recorded in accordance with the copy control information, such as the digital CCI and the watermark CCI during recording, it is not necessary to perform playback control utilizing the copy control information again during playback. On the other hand, an unencrypted content recorded in an unsecured area of an SD memory card, namely, an SDMI-unprotected content is not recorded referring to watermark CCI, digital CCI or the like during recording, ~~and hence~~, for playback, the watermark CCI is detected and playback control is performed based on the detected watermark CCI. Playback control is executed based on the watermark CCI because of possible tampering of the digital CCI.

Please replace the paragraph, beginning at page 25, line 22, with the following rewritten paragraph:

However, in the conventional structure described above, similar electronic watermark detection is involved in both the optical disk playback control described in relation to the first conventional technique and the SD audio recording control described in relation to the second conventional technique. In short, the optical disk playback control described in relation to the first conventional technique demands detection of all states of an electronic watermark, In contrast, ~~whereas~~ it is not necessary to detect all states of an electronic watermark during the SD audio recording control described in relation to the second conventional technique. All states of an electronic watermark are nevertheless detected in the SD audio recording control of the second conventional technique. Thus, there is a problem that the efficiency is poor owing to excessive processing depending upon the specification of control.

Please replace the paragraph, beginning at page 26, line 25, with the following rewritten paragraph:

Playback control of SD audio is similar. In other words, control is exercised such that as for playback of an SDMI-unprotected content, the content will not be played back when the copy control information denotes "no_more_copy". ~~but~~ However, the content will be played back when the copy control information denotes "copy_one_generation" or "copy_freely". That is, whether it may alone be determined the copy control information of the input content denotes "no_more_copy", control may be exercised such that playback will be stopped when the copy control information denotes "no_more_copy" but will be performed when the copy control information does not denote "no_more_copy". Regardless of this, all types of copy control of "no_more_copy", "copy_one_generation" and "copy_freely" are detected from the copy control information.

Please replace the paragraphs, beginning at page 28, line 2, with the following rewritten paragraph:

~~A first aspect of the invention is a recording apparatus which executes copy control utilizing copy control information which is indicative of plural types of copy control, comprising:~~

~~—— an electronic watermark detection means which detects a predetermined copy control information portion of said copy control information out of a content over which an electronic watermark expressing said copy control information is superimposed; and~~

~~—— a recording means which records said content in accordance with a detection result obtained by said electronic watermark detection means~~ a recording apparatus which executes copy control utilizing copy control information which is formed by plural bits of digital data and indicative of plural types of copy control, comprising:

~~—— an electronic watermark detection means which detects predetermined certain bits of digital data in said copy control information out of a content over which an electronic watermark expressing said copy control information is superimposed; and~~

~~—— a recording means which records said content in accordance with a detection result obtained by said electronic watermark detection means.~~

Please replace the paragraphs, beginning at page 28, line 13, with the following rewritten paragraph:

Further, a second aspect of the invention is ~~the recording apparatus of the first aspect of the invention which is an SD apparatus complying with the SDMI control method,~~

~~wherein said copy control information is available in three types of "copy_freely", "copy_one_generation" and "no_more_copy", and~~

~~said predetermined copy control information portion is "no_more_copy" the recording apparatus of the first aspect of the invention which is an SD apparatus complying with the SDMI control method,~~

~~wherein said copy control information is available in three types of "copy freely", "copy one generation" and "no more copy", and~~

~~said predetermined certain bits of digital data expressing "no more copy".~~

Please replace the paragraphs, beginning at page 28, line 21, with the following rewritten paragraph:

Further, a third aspect of the invention is ~~the recording apparatus of the first aspect of the invention which is a recording apparatus complying with the CPPM control method or the CPRM control method,~~

~~wherein said copy control information is available in three types of "copy_freely", "copy_one_generation" and "no_more_copy", and~~

~~said predetermined copy control information portion is "no_more_copy" the recording apparatus of the first aspect of the invention which is a recording apparatus complying with the CPPM control method or the CPRM control method,~~

~~wherein said copy control information is available in three types of "copy freely", "copy one generation" and "no more copy", and~~

said predetermined certain bits of digital data expressing "no more copy".

Please replace the paragraphs, beginning at page 32, line 13, with the following rewritten paragraph:

Further, a thirteenth aspect of the invention is ~~a recording method of executing copy control utilizing copy control information which is indicative of plural types of copy control, comprising:~~

~~— an electronic watermark detection step of detecting a predetermined copy control information portion of said copy control information out of a content over which an electronic watermark expressing said copy control information is superimposed; and~~

~~— a recording step of recording said content in accordance with a detection result obtained by said electronic watermark detection means~~ a recording means which executes copy control utilizing copy control information which is formed by plural bits of digital data and indicative of plural types of copy control, comprising:

an electronic watermark detection step which detects predetermined certain bits of digital data in said copy control information out of a content over which an electronic watermark expressing said copy control information is superimposed; and

a recording step which records said content in accordance with a detection result obtained by said electronic watermark detection means.

Please replace the paragraphs, beginning at page 34, line 19, with the following rewritten paragraph:

Further, a sixteenth aspect of the present invention is ~~a program of the recording apparatus of the first aspect of the invention, said program makes a computer function as:~~

~~— a part of an electronic watermark detection means which detects a predetermined copy control information portion of said copy control information out of a content over which an electronic watermark expressing said copy control information is superimposed; and~~

~~_____ a part of a recording means which records said content in accordance with a detection result obtained by said electronic watermark detection means~~ a recording medium which can be processed on a computer and which holds a program of the recording apparatus of the first aspect of the invention, said recording medium makes a computer function as:

~~_____ a part of an electronic watermark detection means which detects predetermined certain bits of digital data in said copy control information out of a content over which an electronic watermark expressing said copy control information is superimposed; and~~

~~_____ a part of a recording means which records said content in accordance with a detection result obtained by said electronic watermark detection means.~~

Please replace the paragraph, beginning at page 35, line 5, with the following rewritten paragraph:

Further, a seventeenth aspect of the invention is directed to a recording medium which can be processed on a computer and which holds a program of the playback apparatus of the eighth aspect of the invention, said ~~program~~ recording medium makes a computer function as:

Please replace the paragraph, beginning at page 35, line 24, with the following rewritten paragraph:

Further, an eighteenth aspect of the invention is directed to a recording medium which can be processed on a computer and which holds a program of the multi-function apparatus of the eleventh aspect of the invention, said ~~program~~ recording medium makes a computer function as:

Please delete the paragraphs, beginning at page 36, line 13, as follows:

~~Further, a nineteenth aspect of the present invention is a recording medium which can be processed on a computer and which holds the program of the sixteenth aspect of the invention.~~

~~Further, a twentieth aspect of the present invention is a recording medium which can be~~

~~processed on a computer and which holds the program of the seventeenth aspect of the invention.~~

~~Further, a twenty first aspect of the present invention is a recording medium which can be processed on a computer and which holds the program of the eighteenth aspect of the invention.~~

Please replace the paragraph, beginning at page 37, line 16, with the following rewritten paragraph:

Fig. 6 is a drawing which shows detection which is executed while changing between a mode of detecting ~~only such~~ an electronic watermark which is in a pre-designated state and a mode of detecting electronic watermarks in all states according to the exemplary embodiment of the present invention;

Please replace the paragraph, beginning at page 57, line 16, with the following rewritten paragraph:

That is, for recording of contents received as unprotected inputs, namely, contents which are audio visual contents received as analog signals onto media such as a DVD-R, a DVD-RW and a DVD-RAM within the DVD recorder 221, the DVD recorder 221 first detects electronic watermarks of the contents received as analog signals, and as expressed in Fig. 5 as AWM (audio watermark) SCREENING, performs screening based on the electronic watermarks. In other words, when an electronic watermark is detected and the detected electronic watermark denotes "no_more_copy", the DVD recorder 221 does not record the content received as the analog signal. When no electronic watermark is detected or an electronic watermark is detected but the detected electronic watermark denotes other than "no_more_copy", recording on a DVD-R, a DVD-RW and a DVD-RAM or the like is performed in accordance with AGC and CGMS-A of the contents received as the analog signals as expressed in Fig. 5 as RECORD IN ACCORDANCE WITH AGC AND CGMS-A. In the event that CGMS-A denotes "copy_one_generation" for instance, CGMS-A is updated to "~~copy_no_more~~no more copy" (~~No more copy~~) and the contents received as the analog signals are encrypted and recorded based on the CPRM control method. Meanwhile, when CGMS-A denotes "copy_freely", the contents received as the analog signals are recorded without being encrypted. Also, when no electronic

watermark has been detected recording does not accompany encryption either.

Please replace the paragraph, beginning at page 58, line 16, with the following rewritten paragraph:

When an electronic watermark is detected and whether the electronic watermark denotes "no_more_copy" or "~~no_more_copy~~" in the DVD recorder 221, a similar operation to the operation of the recording/playback apparatus according to the exemplary embodiment is executed, thereby attaining an equivalent effect to that realized by the recording/playback apparatus according to the exemplary embodiment. While the recording/playback apparatus according to the exemplary embodiment encrypts and records all contents for recording of the contents, the DVD recorder 221 is different in that the DVD recorder 221 encrypts and records contents depending upon whether electronic watermarks are detected and in accordance with AGC and CGMS-A.

Please delete the following, beginning at page 66, line 6:

~~POSSIBILITY OF INDUSTRIAL USE~~